

IN THE CLAIMS:

Please amend claims 1, 12, 14, and 37-39 as follows:

1. (Currently Amended) An optical disc recording apparatus for forming by a laser beam of substantially constant power an image on an optical disc by a laser beam, which includes a recording face for recording data and a label face for forming an image disposed on an opposite side of the recording face, address information specifying an irradiation radial position, the address information being included in the recording data and wherein no address information is recorded on the label face, the apparatus comprising:

an optical pickup which applies ~~[[a]]~~ the laser beam of substantially constant power to the optical disc ~~to form the image, wherein when the optical pickup is opposed to the recording face, the optical pickup records the data on the recording face, and when the optical pickup is opposed to the label face, the optical pickup forms the image on the label face;~~

a rotating section which rotates the optical disc at a substantially constant speed;

a feeding section which moves the optical pickup by a movement distance in a radial direction of the optical disc;

a detecting section which detects a radial position of the optical pickup with respect to the optical disc; and

a movement distance controlling section which changes the movement distance set by the feeding section in accordance with the radial position of the optical pickup detected by the detecting section when forming the image on the label face,

wherein the optical pickup, the rotating section, the feeding section and the detecting section are used for both data recording on the recording face and image forming on the label face.

2. (Previously Presented) The optical disc recording apparatus according to claim 1, wherein a rotation number of the optical disc rotated by the rotating section is controlled by a rotation controlling section to be substantially constant.

3. (Original) The optical disc recording apparatus according to claim 1, wherein the power of the laser beam is controlled by a laser power controlling section to be substantially constant.

4. (Original) The optical disc recording apparatus according to claim 1, wherein the feeding section moves the optical pickup each time when the optical disc is rotated once by the rotating section.

5. (Previously Presented) The optical disc recording apparatus according to claim 1, wherein the movement distance controlling section changes the movement distance set by the feeding section to be reduced in a stepwise manner as the radial position of the optical pickup is moved from an inner peripheral side of the optical disc toward an outer peripheral side.

6. (Previously Presented) The optical disc recording apparatus according to claim 1, further including a storage section which stores feed management information for forming an image of a density which is uniform over a substantially whole area of the optical disc, the feed management information including radial positions of the optical pickup and corresponding movement distances for the optical pickup,

wherein the movement distance controlling section obtains the movement distance based on the radial position of the optical pickup that is detected by said detecting section, and a corresponding movement distance in the feed management information.

7. (Original) The optical disc recording apparatus according to claim 1, wherein the optical disc recording apparatus forms an image on the optical disc in accordance with image

data with using the optical pickup, the rotating section, the feeding section, the detecting section and the movement distance controlling section.

8. Cancelled

9. Cancelled

10. Cancelled

11. Cancelled

12. (Currently Amended) A method of forming an image by a laser beam of substantially constant power on an optical disc which includes a recording face for recording data and a label face for forming an image disposed on an opposite side of the recording face, address information specifying an irradiation radial position, the address information being included in the recording data and wherein no address information is recorded on the label face, the method comprising:

rotating the optical disc at substantially constant speed;

applying ~~[[a]]~~ the laser beam of substantially constant power to the optical disc by an optical pickup ~~to form the image, wherein when the optical pickup is opposed to the recording face, the optical pickup records the data on the recording face, and when the optical pickup is opposed to the label face, the optical pickup forms the image on the label face;~~

moving the optical pickup by a movement distance in a radial direction of the optical disc when forming the image on the label face; and

changing the movement distance in accordance with the radial position of the optical pickup on the optical disc,

wherein the optical pickup, a rotating section, a feeding section and a detecting section are used for both data recording on the recording face and image forming on the label face.

13. Cancelled

14. (Currently Amended) An optical disc including a heat sensitive layer in which an image is formed by discoloring the heat-sensitive layer with a laser beam of substantially constant power, the optical disc includes a recording face for recording data and a label face for forming an image disposed on an opposite side of the recording face, address information specifying an irradiation radial position, the address information being included in the recording data and wherein no address information is recorded on the label face, the image being formed by the method comprising:

rotating the optical disc at substantially constant speed;

applying ~~[[a]]~~ the laser beam of substantially constant power to the optical disc by an optical pickup ~~to form the image, wherein when the optical pickup is opposed to the recording face, the optical pickup records the data on the recording face, and when the optical pickup is opposed to the label face, the optical pickup forms the image on the label face;~~

moving the optical pickup by a movement distance in a radial direction of the optical disc when forming the image on the label face; and

changing the movement distance in accordance with the radial position of the optical pickup on the optical disc,

wherein the optical pickup, a rotating section, a feeding section and a detecting section are used for both data recording on the recording face and image forming on the label face.

15. Cancelled

16. (Previously Presented) The method of claim 12, wherein a number of rotations the optical disk is rotated is controlled by a rotation controlling section to be substantially constant.

17. (Previously Presented) The method of claim 12, wherein the power of the laser beam is controlled by a laser power controlling section to be substantially constant.

18. (Previously Presented) The method of claim 12, wherein the moving of the optical pickup by the movement distance occurs each time when the optical disk is rotated once by a rotating section.

19. (Previously Presented) The method of claim 12, wherein the changing in the movement distance is reduced in a stepwise manner as the radial position of the optical pickup is moved from an inner peripheral side of the optical disc toward an outer peripheral side.

20. (Previously Presented) The method of claim 12, further including storing feed management information which is utilized for forming an image of a density which is uniform over a substantially whole area of the optical disc, the feed management information including radial positions of the optical pickup and corresponding movement distances for the optical pickup, and

obtaining the movement distance of the optical pickup based on the radial position of the optical pickup detected by a detecting section and a corresponding movement distance in the feed management information.

21. (Previously Presented) The method of claim 12, further including forming an image on the optical disc in accordance with image data.

22. (Previously Presented) The optical disc of claim 14, wherein a number of rotations the optical disk is rotated is controlled by a rotation controlling section to be substantially constant.

23. (Previously Presented) The optical disc of claim 14, wherein the power of the laser beam is controlled by a laser power controlling section to be substantially constant.

24. (Previously Presented) The optical disc of claim 14, wherein the moving of the optical pickup by the movement distance occurs each time when the optical disk is rotated once by a rotating section.

25. (Previously Presented) The optical disc of claim 14, wherein the changing in the movement distance is further reduced in a stepwise manner as the radial position of the optical pickup is further moved from an inner peripheral side of the optical disc toward an outer peripheral side.

26. (Previously Presented) The optical disc of claim 14, further including storing feed management information which is utilized for forming an image of a density which is uniform over a substantially whole area of the optical disc, the feed management information including radial positions of the optical pickup and corresponding movement distances for the optical pickup, and

obtaining the movement distance of the optical pickup based on the radial position of the optical pickup detected by a detecting section and a corresponding movement distance in the feed management information.

27. (Previously Presented) The optical disc of claim 14, further including forming an image on the optical disc in accordance with image data.

28. (Previously Presented) The optical disc recording apparatus of claim 1, wherein the movement distance of the optical pickup is the movement distance of the laser beam in a disk radial direction.

29. (Previously Presented) The method of claim 12, wherein the movement distance of the optical pickup is the movement distance of the laser beam in a disk radial direction.

30. (Previously Presented) The optical disc of claim 14, the movement distance of the

optical pickup is the movement distance of the laser beam in a disk radial direction.

31. (Previously Presented) The optical disc recording apparatus of claim 1, wherein the movement distance is set according to a line width of the optical disc.

32. (Previously Presented) The method of claim 12, wherein the movement distance is set according to a line width of the optical disc.

33. (Previously Presented) The optical disc of claim 14, wherein the movement distance is set according to a line width of the optical disc.

34. (Original) The optical disc recording apparatus according to claim 1 further including a memory for storing image data defining the image to be formed on the optical disc, wherein

the detecting section detects a radial position of the optical pickup with respect to the optical disc and a circumferential position of the optical pickup with respect to the optical disc, and

the image data corresponding to the detected radial position and the circumferential position is read out from the memory and transferred to the optical pickup to control on/off of the laser beam.

35. (Original) The method according to claim 12, further comprising:  
storing, in a memory, image data defining the image to be formed on the optical disc,  
detecting a radial position of the optical pickup with respect to the optical disc and a circumferential position of the optical pickup with respect to the optical disc, and  
reading out the image data corresponding to the detected radial position and the circumferential position from the memory; and

transferring the read-out image data to the optical pickup to control on/off of the laser beam.

36. (Original) The method according to claim 12, further including:  
storing, in a memory, image data defining the image to be formed on the optical disc,  
detecting a radial position of the optical pickup with respect to the optical disc and a  
circumferential position of the optical pickup with respect to the optical disc, and  
reading out the image data corresponding to the detected radial position and the  
circumferential position from the memory; and

transferring the read-out image data to the optical pickup to control on/off of the laser beam.

37. (Currently Amended) An optical disc recording apparatus[[,]] for forming by a laser beam of substantially constant power an image on an optical disc, which includes a recording face for recording data and a label face for forming an image disposed on an opposite side of the recording face, address information specifying an irradiation radial position, the address information being included in the recording data and wherein no address information is recorded on the label face, the apparatus comprising:

an optical pickup [[with]] which applies [[a]] the laser beam of substantially constant power to [[an]] the optical disc, wherein when the optical pickup is opposed to the recording face, the optical pickup records the data on the recording face, and when the optical pickup is opposed to the label face, the optical pickup forms the image on the label face;

a rotating section which rotates the optical disc at a substantially constant speed;

a feeding section which moves the optical pickup by a movement distance in a radial direction of the optical disc;



a detecting section which detects a radial position of the optical pickup with respect to the optical disc; and

a movement distance controlling section which changes the movement distance set by the feeding section in accordance with the radial position of the optical pickup detected by the detecting section when forming the image on the label face,

wherein the optical pickup, the rotating section, the feeding section and the detecting section are used for both data recording on the recording face and image forming on the label face,

wherein the movement distance controlling section changes the movement distance set by the feeding section to be reduced in a stepwise manner as the radial position of the optical pickup is moved from an inner peripheral side of the optical disc toward an outer peripheral side.

38. (Currently Amended) An optical disc recording apparatus[[,]] for forming by a laser beam of substantially constant power an image on an optical disc, which includes a recording face for recording data and a label face for forming an image disposed on an opposite side of the recording face, address information specifying an irradiation radial position, the address information being included in the recording data and wherein no address information is recorded on the label face, the apparatus comprising:

an optical pickup which applies [[a]] the laser beam of substantially constant power to [[an]] the optical disc, wherein when the optical pickup is opposed to the recording face, the optical pickup records the data on the recording face, and when the optical pickup is opposed to the label face, the optical pickup forms the image on the label face;

a rotating section which rotates the optical disc at a substantially constant speed;

a feeding section which specifies a movement distance of the optical pickup in a radial direction;

a detecting section which detects a radial position of the optical pickup with respect to the optical disc; and

a movement distance controlling section which changes the movement distance specified by the feeding section in accordance with the radial position of the optical pickup detected by the detecting section when forming the image on the label face,

wherein the optical pickup, the rotating section, the feeding section and the detecting section are used for both data recording on the recording face and image forming on the label face,

wherein the movement distance specified by the feeding section is correlated in advance to a predetermined radial position of the optical pickup.

39. (Currently Amended) An optical disc recording apparatus for forming by a laser beam of substantially constant power an image on an optical disc ~~by a laser beam~~, which includes a recording face for recording data and a label face for forming an image disposed on an opposite side of the recording face, address information specifying an irradiation radial position, the address information being included in the recording data and wherein no address information is recorded on the label face, the apparatus comprising:

an optical pickup which applies ~~[[a]]~~ the laser beam of substantially constant power to ~~[[a]]~~ the label face of the optical disc to form the image on the label face, wherein when the optical pickup is opposed to the recording face, the optical pickup records the data on the recording face, and when the optical pickup is opposed to the label face, the optical pickup forms the image on the label face, and wherein the label face of the optical disc does not include tracks;

a rotating section which rotates the optical disc at a substantially constant speed;

a feeding section which moves the optical pickup by a movement distance in a radial direction of the optical disc;

a detecting section which detects a radial position of the optical pickup with respect to the optical disc; and

a movement distance controlling section which changes the movement distance set by the feeding section in accordance with the radial position of the optical pickup detected by the detecting section when forming the image on the label face,

wherein the optical pickup, the rotating section, the feeding section and the detecting section are used for both data recording on the recording face and image forming on the label face.

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